

Valve Lapping Guide

Minor valve seating problems can be fixed by a home mechanic at little cost in a short time. The aim is to create a perfect seal by fine grinding of the valve and seat to form a perfect seal.

INSPECTION

Remove the valve from the head and inspect the valve and the valve seat. If the valve is pitted or burnt, then it's new valve time.

MATERIALS

- Valve grinding paste which can come in water based or oil based forms and is available in coarse and fine pastes. For minor problems, only use the fine paste as it is easy to lap the valve in further than necessary, which may need a valve seat cutter and a shop mechanic to fix
- a grinding stick
- Engineers Blue. (Blue oil paint.)
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METHOD

- The valve must be free to spin in the guide, i.e. valve springs must be removed. Keep putting a little oil on the guide during the valve lapping procedure.
- A small amount of paste is spread around the sealing surface of the valve which is then inserted in its normal position in the guide.
- The rubber suction cup on the end of the grinding stick is moistened then pushed onto the base of the valve.
- The stick is rubbed between the hands causing the valve to spin. It should rotate several times for each rub of the hands. A slight downward pressure is exerted at the same time and this combined action causes the grinding paste to do its job. After 10 to 20 seconds of lapping, it is time to check the results.
- Thoroughly clean the valve and seat to remove all traces of paste etc, then smear a very thin layer of Engineers Blue right around the sealing face of the valve.
- Place the valve back into its normal position, and exerting a slight downward pressure on the face of the valve, rotate it about 5 degrees only! The idea is that where the valve is touching the seat, some of the engineers blue will be transferred to the valve seat. If the valve is spun all the way around, then a high spot on the valve would transfer the blue right around the seat, giving a false impression.
- Looking at the seat, it is fairly easy to see if there are any places where the blue is missing. If this is the case it's back to 10 to 20 seconds of lapping again.
- If the seat has blue all the way around, then clean and check again with the blue.

If you are happy the final test is to clean and reassemble the valve and spring then pour some petrol down the port. Any sign of petrol getting past the valve no matter how small, and it's back to square one. Remember, take your time and check the results often.

CAUTION. Gasoline is flammable, so ensure that appropriate safety precautions are taken eg. No flames, No smoking.

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